BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE OCCUPATIONAL SAFETY AND
HEALTH STANDARD 91-45

1 NOVEMBER 1998

Safety

HAZARDOUS ENERGY CONTROL AND MISHAP PREVENTION SIGNS AND TAGS

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The criteria in this standard are the Air Force's minimum safety, fire prevention, and occupational health requirements for the hazardous energy control and mishap prevention signs and tags programs. Major commands (MAJCOM), direct reporting units (DRU), and field operating agencies (FOA) may supplement this standard when additional or more stringent safety, fire prevention, and health criteria are required. Refer to Air Force Instruction (AFI) 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program,* for instructions on processing supplements or variances. Report conflicts in guidance between this standard, federal standards, or other Air Force directives through MAJCOM, DRU, or FOA Ground Safety offices to Headquarters, Air Force Safety Center, Ground Safety Division, Safety Engineering and Standards Branch (HQ AFSC/SEGS), 9700 G Avenue, SE, Kirtland AFB NM 87117-5670.

This standard explains Air Force requirements for the use of safety, health, and fire prevention signs and tags. It applies to all work environments, but is not intended to cover signs or tags unique to aircraft, motor vehicle, railroad, or marine operations. This standard also covers the Air Force program for the control of hazardous energy (lockout and tagout). It applies to the industrial environment and does not cover construction, agriculture, or maritime employment or electric power generation, transmission, and distribution facilities.

It establishes uniform requirements for the use of signs and tags to inform Air Force personnel of immediate, existing, or potential hazards which may produce occupational injury or illness. This standard also establishes requirements to prevent unexpected start-up of machines or equipment through the lockout or tagout of energy isolation devices.

The standard adopts the occupational safety and health signs contained in Occupational Safety and Health Administration (OSHA) Standards 29 Code of Federal Regulations (CFR) 1910.144, *Safety Color Code for Marking Physical Hazards*; 1910.145; *Specifications for Accident Prevention Signs and Tags*; and 1910.147, *The Control of Hazardous Energy (Lockout/Tagout)*. There may be other signs or tags prescribed in existing Air Force directives to cover specific hazards and such signs or tags should be brought to the attention of HQ AFSC/SEGS. This standard establishes a requirement for procedures, periodic inspection, and training for an energy isolation (lockout or tagout) program.

The standard also establishes the basic principles of the design, fabrication, and use of general hazard identification tags in the Air Force occupational environment. The general hazard identification tags prescribed herein satisfy the hazard notification requirement established by AFI 91-301 and will be used when such notification is required.

No Technical Order (TO), AFOSH Standard, or Operating Instruction can possibly address every hazard or potential hazard that may arise from a specific task or combination of tasks. Where situations exist that do not appear to be adequately covered by existing directives, use an Operational Risk Management (ORM) process to assess risk associated with those situations and determine adequate safeguards or procedures to manage the risk. ***NOTE:*** The ORM process may not be used to violate directives or other regulatory guidance. Normal waiver or variance procedures must be followed in all cases.

SUMMARY OF REVISIONS

Administrative changes have been made to update this standard to electronic format. Paragraphs have been renumbered and references updated. Requirement to use ORM process is addressed in the paragraph above. A glossary of references and supporting information is provided at Attachment 1. ***NOTE:*** AFOSH 127-series standards are being converted to 91-series standards and 161-series to 48-series standards. However, not all standards have been converted as of the effective date of this standard. To help you locate these documents, references to AFOSH standards are stated in the updated series and standard number in the references section of **Attachment 1**. A bar (|) indicates revisions from the previous edition.

1. Hazards and Human Factors. Signs and tags are used to provide information. If the message is understood, the sign or tag will serve a useful purpose. If the message is not understood, the sign or tag may do more harm than good. When properly used, they warn of danger, caution personnel, or provide information. Personnel responsible for identifying and installing signs and tags must be knowledgeable of the operational situation and ensure the correct message is conveyed. Signs and tags are not intended as substitutes for preferred abatement methods such as engineering controls, lockout procedures, substitution, isolation, or safe work practices. Rather, they are additional safety guidance and increase the employee's awareness of potential hazards.

2. General Requirements:

2.1. When and Where to Use Safety, Fire Prevention, and Health Signs. To be effective, signs must convey a clear concise message, be visible to all, be standardized to the maximum extent, and get the attention of personnel in the immediate area.

2.1.1. The location of these signs is important. They should not be located in any place that could result in blockage of exits or in any place where other personnel could be injured. It is generally advisable to place signs slightly above eye level (approximately 5 feet 6 inches), but specific situations may require alternative locations. Signs shall be posted sufficiently ahead of a particular hazard (if possible, at least 5 feet before the hazard) so an employee will read the sign and react to the warning before encountering the posted hazard.

2.1.2. The lettering shall be of sufficient size and contrast to make it readily visible and legible (**Attachment 2**).

2.1.3. Signs should not be placed on movable objects such as doors, windows, and racks where a change in position would void the purpose of the sign.

2.1.4. Pictorial signs are generally better understood than those using words, but, there is not a standardized set of industrial workplace pictorial safety signs in use in the United States. Because of this, commercial signs contain both words and symbols, and at times, words only. Where signs

are intended to convey information to non-English speaking or reading persons, bilingual graphics should be considered.

2.2. When and Where to Use Safety, Fire Prevention, and Health Tags. Tags are a temporary means of warning all concerned of a hazardous condition, defective equipment, etc. Tags are not to be considered as a complete warning method, but should only be used until a positive means can be employed to eliminate the hazard. For example, a "Do Not Start" tag affixed to a machine is only a temporary warning that shall be used until the machine can be locked out, deenergized, or inactivated (29 CFR 1910.147). No servicing or maintenance will be performed until an approved lockout device is installed.

2.3. When and Where to Use Lockout Devices. Lockout devices are a positive means to isolate energy and prevent the unexpected start-up of machines and equipment. Energy sources shall be locked out prior to the start of inspection, maintenance, or servicing actions which require the removal of guards and will remain locked out until all activities are complete.

2.4. Procedures. Procedures shall be developed and documented for the safe and proper use of locks and tags on energy isolating devices (**Attachment 3**).

2.5. Training. A training plan shall be developed to provide initial and recurring training on lockout and tagout procedures (paragraph **5.2.**).

2.6. Inspection. A periodic inspection of the lockout or tagout program shall be conducted at least annually to ensure the procedures and training requirements of this standard are being followed.

2.7. Sources of Signs. Standard commercial signs should be used whenever possible rather than locally making them.

2.8. Sources of Tags. All mishap prevention tags shall be standardized Air Force forms. Air Force tags meeting the requirements of 29 CFR 1910.145 are listed in paragraph **4.** and are available through normal form distribution channels.

2.9. Availability of Safety Signs, Tags, and Locks. The functional manager or supervisor is responsible to ensure that safety signs, tags, and locks are available in adequate supply.

3. Specifications For and Usage of Signs:

3.1. Standard Proportions for Signs. Commercially manufactured signs are designed and proportioned for readability and should be procured when possible. If it is necessary to locally make signs, the recommended dimensions and proportions listed in **Attachment 2** will be used.

3.1.1. Identification signs shall be furnished with rounded or blunt corners and shall be free from sharp edges, burrs, splinters, or other sharp projections. The ends of heads of bolts or other fastening devices shall be located in a way that does not constitute a hazard.

3.1.2. Hazard identification signs are made up of three elements: the symbol, hazard warning, and instruction text. The instruction text is an integral part of the sign panel. Color specifications contained within this standard are according to 29 CFRs 1910.144, 1910.145, and 1910.150.

3.1.3. All warning signs shall be printed in English and should be printed in the predominant language of non-English reading workers. Where established symbols exist, they should also be considered. Workers unable to read posted signs should receive information regarding hazardous areas and should be informed of the instructions printed on the signs.

3.2. Criteria for Warning Colors. The criteria of this standard shall apply to the use of safety color coding for warning signs and markers. The intent is to establish a safety color code that will alert and inform persons to take precautionary action or other appropriate action in the presence of a hazard (see **Attachment 4** for examples of color applications).

3.2.1. Black or White. Black or white is used for lettering to provide contrast with the basic warning colors. Black lettering shall be used on a yellow, white, or orange background. White lettering shall be used on a red, green, or black background.

3.2.2. Green:

3.2.2.1. Green shall be the basic color for designating safety and first-aid equipment locations. Solid green, green and white stripes, green cross on white background, or white cross on green background can be used.

3.2.2.2. Green is also used for identifying compressed gas cylinders and piping systems containing oxidizing materials.

3.2.3. Magenta:

3.2.3.1. Magenta is used for lettering piping systems containers, housings, equipment, etc., containing radioactive substances.

3.2.3.2. Approved tags and signs exhibiting the standard, 3-bladed magenta radiation symbol on a yellow background shall be used to identify the nature and magnitude of the radiation hazard, together with specific hazard control instructions.

3.2.4. Orange. Orange shall be used as the basic color for designating electrical conduit and unguarded, dangerous parts of machines or energized equipment which may cut, crush, shock, or otherwise injure and to emphasize such hazards when guards around the equipment are open or removed, exposing an unguarded hazard to employees.

3.2.5. Red or Lime Yellow. Red or lime yellow shall be the basic color for the identification of fire prevention equipment, danger, and stop. Fire hydrants shall be painted according to instructions in applicable AF 32-series instructions.

3.2.6. Yellow. Yellow shall be the basic color for designating caution, flammable materials, and for marking physical hazards, such as strike against, stumble, trip, fall, and caught-between types.

3.2.7. Solid Yellow, Yellow and Black Stripes, and Yellow and Black Checks. These colors and color combinations may be used interchangeably, using the combination which will create the most attention for the designation of traffic, housekeeping, or aisle markings.

3.3. Specifications:

3.3.1. The size of lettering to be used for the wording or message of the sign should be as large as possible but consistent with good balance and legibility. **Table A2.1.** shows the distances at which well-proportioned letters of different heights can be read by persons with 20/40 visual acuity under good lighting conditions.

3.3.2. The color, proportions, and location of the identification panels on each sign shall be regarded as standard. The ratio of the depth of the identifying panel (danger, caution, etc.) to the width of the sign shall be as established in **Attachment 2** for all sign sizes not covered in the tables.

3.3.3. Each sign shall be provided with a reliable light source either natural or artificial giving a value of not less than 5-foot-candles on the illuminated surface of the sign. The illumination of exit signs shall be continuous during all times in which building occupancy may require that the means of egress be available for use.

3.4. Types of Signs, Their Color Identification, and Use:

3.4.1. Signs Used to Identify the Fire Hazards of Materials. A standardized system exists in the United States for identifying the hazards of materials in terms of three categories: health hazard, flammability hazard, and reactivity hazard. The system may be used by the fire department at continental United States (CONUS) installations and is explained in detail in National Fire Protection Association (NFPA) 704, *Identification of the Fire Hazards of Materials*. Organizations desiring to use these signs shall consult the installation fire department for additional information.

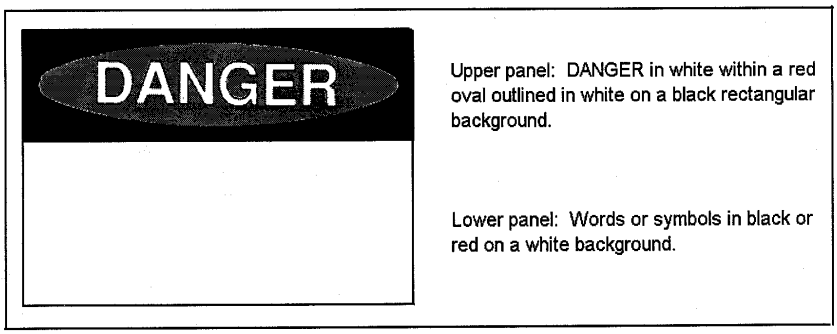
3.4.2. Signs and Symbols Used to Identify Explosive Materials. A standard system exists in the AF and North Atlantic Treaty Organization (NATO) to identify items and substances assigned to United Nations (UN) dangerous goods Class I (explosives, munitions, propellants, and pyrotechnics). Signs and symbols are used to categorize explosives according to the hazard they present and are explained in Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards*.

3.4.3. AF Form 1118, **Notice of Hazard**. The Notice of Hazard is considered a sign and is posted at or near the identified hazard until it is corrected. Standard colors for these signs are black letters on a white background with a red border. Refer to AFI 91-301 for detailed instructions on the use of this sign.

3.4.4. Asbestos Warning Signs. The warning signs required for asbestos shall conform to the requirements of 29 CFR 1910.1001, *Asbestos*, and AFOSH Standard 48-8, *Controlling Exposures To Hazardous Materials.*

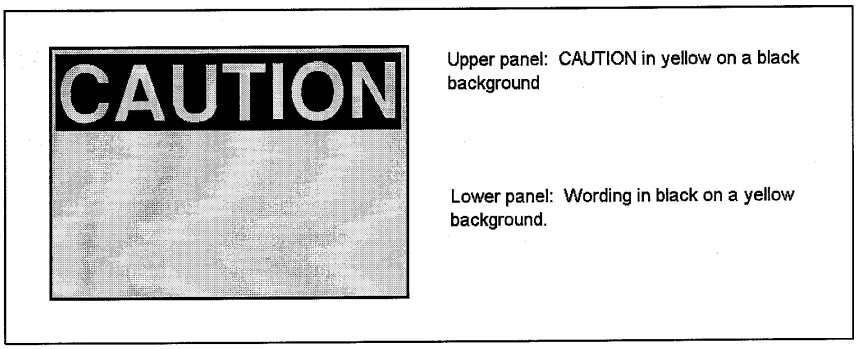
3.4.5. Danger Signs. Danger signs shall be used to indicate an immediate hazard. The sign shall be of red, black, and white colors as shown in **Figure 1.** and shall be of the appropriate size as set forth in **Table A2.2.** Examples of messages for Danger signs are shown in **Attachment 5**.

Figure 1. Danger Sign.



3.4.6. Caution Signs. Caution signs shall be used to warn of a potential hazard. The sign shall be of yellow and black colors and designed as shown in **Figure 2.** with dimensions as given in **Table A2.3.**

Figure 2. Caution Sign.

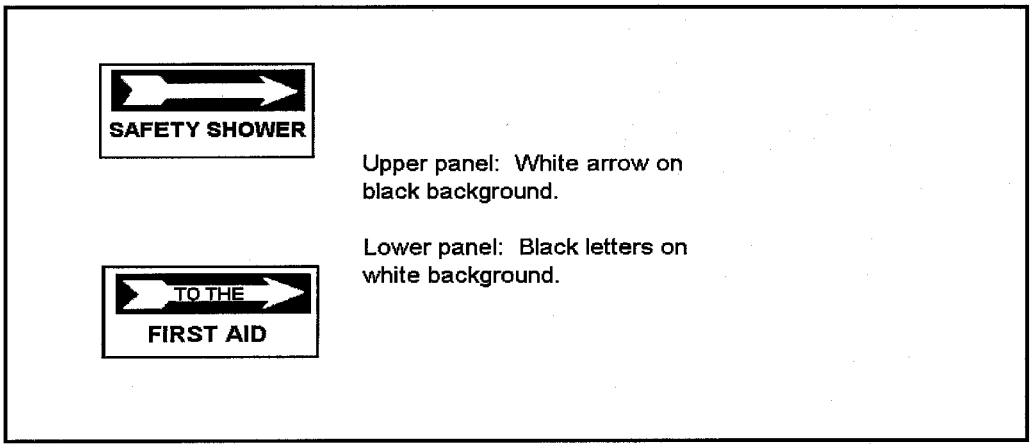


3.4.7. Radio Frequency Radiation Warning Signs. Radio frequency radiation warning signs shall be used to signify the presence of hazardous electromagnetic energy of frequencies from 10 megahertz to 100 gigahertz. Radio frequency radiation warning signs shall define specific radio frequency hazards and provide warning data or instructions about the hazard. The wording "**WARNING - RADIO FREQUENCY HAZARD"** shall appear in the upper triangle as specified in AFOSH Standard 48-9, *Radio Frequency Radiation (RFR) Safety Program*.

3.4.8. Exit Signs. Exit signs will be used to clearly identify the means of egress from facilities when required. The signs will conform to the design and color requirements contained in Engineering Technical Letter (ETL) 91-5, *Fire Protection Engineering Criteria--Emergency Lighting and Marking of Exits,* and NFPA 101, *Code for Safety to Life From Fire in Buildings and Structures (The Life Safety Code),* Chapter 5.

3.4.9. Directional Signs. Directional signs other than emergency type exit signs shall be used to indicate the way to stairways, medical offices, health stations, emergency showers, etc. They shall be black and white and designed as shown in **Figure 3.**, with dimensions as specified in **Table A2.5.**

Figure 3. Directional Signs.



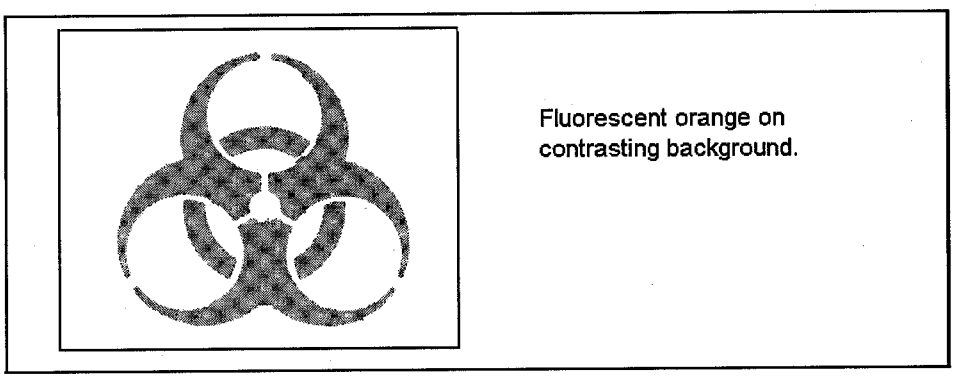
3.4.10. Instruction and Identification Signs. Instruction and Identification signs shall be used where there is a need to convey general instructions or to identify personal protective equipment or systems. The design of these signs shall be as shown in **Figure 4.**, with dimensions as shown in **Table A2.6.** The colors shall be green and white, preferably white letters on a green background.

3.4.11. Biological Hazard Warning Signs. Biological Hazard warning signs shall be used to signify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, etc., which contain or are contaminated with viable hazardous agents. The symbol on these signs shall be the standard fluorescent orange or orange-red color. Background color is optional as long as there is sufficient contrast for the symbol to be clearly defined. The symbol may be used on signs, warning tags, or identification labels. Appropriate wording may be used with the biological symbol to indicate the nature or identity of the hazard. Appropriate wording shall indicate precautionary information and the name or job classification of the individual responsible (such as chemical or laboratory supervisor) for control of the biological hazard. This information shall never be superimposed on the symbol. The design of these signs shall be as shown in **Figure 5.** The size of letters used on Biological Hazard warning signs shall be according to specifications in **Table A2.1.**

Figure 4. Instruction and Identification Signs.

3.4.12. Ionizing Radiation Warning Signs, Placards, and Forms. Reference TO 00-110N-3, *Requisition, Handling, Storage, and Identification of Radioactive Material.*

Figure 5. Standard Biological Hazard Symbol.



3.5. Relationship Between AF Form 1118 and AF Form 979:

3.5.1. The AF Form 1118, **Notice of Hazard**, in the context of this standard, is a danger sign used to permanently identify the existence of a hazardous condition that could result in death, disability, or a lost workday mishap—Risk Assessment Code (RAC) 1 through 3. The AF Form 1118 can only be issued by qualified ground safety, fire prevention, or health officials. Removal is authorized only upon correction of hazard and verification by the issuing authority. Refer to AFI 91-301 for instructions for preparing AF Form 1118.

3.5.2. The AF Form 979, **Danger Tag**, is a temporary means of identifying the same conditions and can be issued by the supervisor as well as qualified ground safety, fire prevention, or health officials. The Danger Tag provides a means for workplace supervision to immediately alert employees to a real or perceived danger. Posting an AF Form 1118 at or in the immediate vicinity of the hazardous condition constitutes authority to remove the AF Form 979.

4. Specifications For and Use of Tags:

4.1. General Instructions. The following apply to all Air Force tags prescribed by this standard. Requirements that are unique to a particular tag will appear in the instructions for that tag.

4.1.1. User Instructions. Any AF employee who becomes aware of an unsafe condition will immediately advise the work area supervisor of that condition.

4.1.1.1. Notification requirements do not apply when Danger tags are installed as a result of TO, instruction, or other directed requirements, including routine maintenance functions on aircraft or missile systems.

4.1.1.2. Ground safety, fire department, and (or) bioenvironmental engineering (BE) officials need not be contacted when tags are used during routine maintenance or servicing. For example: ground safety personnel need not be notified when tagging out the circuit breaker of an air compressor where the motor has been removed for bearing replacement or when machines or equipment are locked out for maintenance or servicing.

4.1.1.3. Supervisors will determine whether a tag is needed and, if so, that the appropriate tag is attached as required. They will coordinate the placement of tags, and the assignment of RAC, with the installation ground safety, fire department, or BE officials (as appropriate). Tag-issuing responsibility is the supervisor or the person in charge at that time. If the responsible supervisor is not available, the employee will phone ground safety, fire department, or BE personnel (as appropriate) and request assistance.

4.1.1.4. Equipment records, when maintained, should be annotated to reflect current status. Tag logs may be maintained to identify tags currently in use.

4.1.2. Supervisor Action. The supervisor will evaluate the situation and initiate appropriate action. The supervisor will consult the installation ground safety, fire department, or BE personnel, as appropriate.

4.1.2.1. Assignment of RAC is a responsibility of the personnel in these offices. A RAC will not be assigned to tags issued during routine maintenance or servicing (for example, TO-directed tagging of the starter switch during engine maintenance does not require assignment of a RAC).

4.1.2.2. Verification of RAC (when required by AFI 91-301) will be accomplished as soon as possible and should not exceed 10 days from hazard identification.

4.1.2.3. Tag placement will not be delayed awaiting RAC verification. Changing an initial tag from Danger to Caution, Out of Order, Do Not Start, etc., or vice-versa, is the responsibility of the supervisor upon verification of RAC by the installation ground safety, fire department, or BE personnel.

4.1.2.4. Local commanders will implement internal procedures for accomplishing effective coordination between supervision and ground safety, fire prevention, and health personnel.

4.1.3. Removal. The supervisor, with coordination from the installation ground safety, fire department, or BE personnel, as appropriate, is responsible for removing the tag. This action shall be taken only after the unsafe condition has been corrected. This individual will annotate the appropriate maintenance record, if maintained for the equipment, that the condition has been eliminated and the tag removed. The responsible installation ground safety personnel will be notified

during normal duty hours that the tag has been removed. Notification will not be later than the following duty day.

4.2. Types of Tags, Their Color Identification, and Use. The mishap prevention tags prescribed by this directive (Danger, Caution, Out of Order, and Do Not Start) meet the requirements of AFI 91-301 and 29 CFR 1910.145.

4.2.1. AF Form 979, **Danger Tag** (**Figure 6.**). There shall be no variation in the type of design of tags posted or hung to warn of specific dangers. Any AF employee who becomes aware of a hazard that may require RAC 1 through 3 classification will immediately advise the work area or activity supervisor and qualified ground safety, fire prevention, and health officials of the unsafe condition. They will determine the specific precautions that are required and the RAC classification. Routine aircraft or missile maintenance actions required by TOs or instructions will not be coordinated with ground safety, fire department, or BE personnel.

4.2.1.1. How to Determine When to Use. See AFI 91-301 and the instructions below:

4.2.1.1.1. Danger Tags shall only be used where an immediate hazard (RAC 1 through 3) exists and specific precautions are required to protect personnel or property—or as required by TOs, instructions, or other directed requirements.

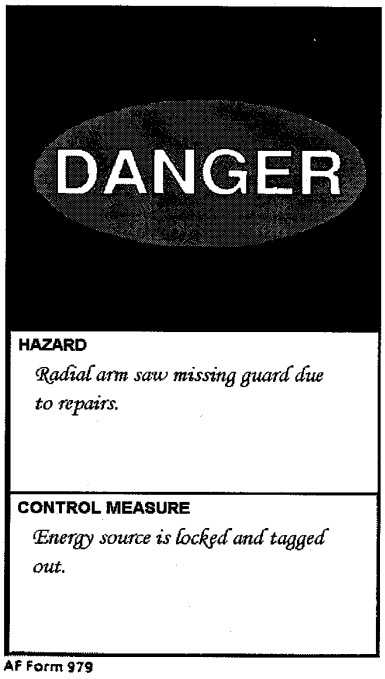
4.2.1.1.2. All employees shall be instructed that Danger Tags indicate immediate danger and that special precautions are necessary.

4.2.1.1.3. A Danger Tag shall be placed on damaged equipment and immediate arrangements made for the equipment to be taken out of service and sent to the repair shop. The wording should read "**DO NOT USE THIS EQUIPMENT**" or "**DEFECTIVE EQUIPMENT, DO NOT USE**".

4.2.1.2. Removal. Only the supervisor may remove the AF Form 979, **Danger Tag.** Removal will be accomplished only if the hazard has been abated. The responsible installation ground safety personnel will be notified during normal duty hours that the tag has been removed. Notification will not be later than the following duty day. Removal of Danger Tags prescribed by TOs or instructions for routine aircraft or missile maintenance actions need not be coordinated with ground safety, fire department, or BE personnel.

4.2.1.3. Text and Reverse Side. The text will be provided by, and the reverse side completed by, the responsible on-duty supervisor (refer to **Figure 10.** and paragraph **4.3.**).

Figure 6. AF Form 979, Danger Tag.



(White Tag. White letters on a red ellipse within a black rectangle [symbol]. Text-Black)

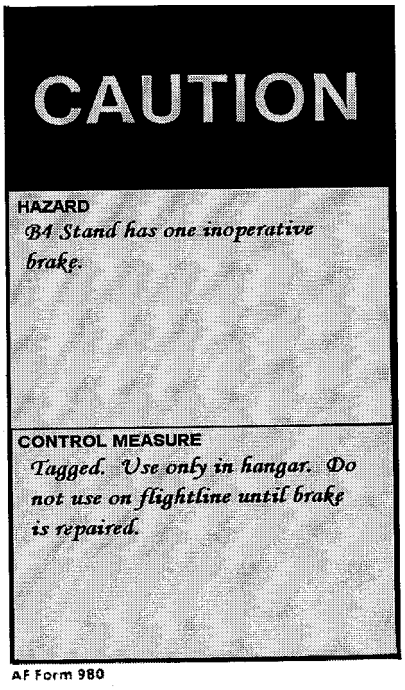
4.2.2. AF Form 980, **Caution Tag** (**Figure 7.**):

4.2.2.1. When to Use. AF Form 980, **Caution Tag**, shall be used by any AF employee, in coordination with the work area or activity supervisor, only to warn personnel against potential hazards or to caution against unsafe practices, and to prescribe the precaution that will be taken to protect personnel and property from mishap probability. All employees shall be instructed that Caution Tags indicate a potential hazard and proper precautions shall be taken. The placement of Caution Tags, and assignment of RAC, will be coordinated with the installation ground safety, fire department, or BE personnel (as appropriate). Routine maintenance actions required by TOs or AFI 32-1064, *Electrical Safe Practices*, will not be coordinated with ground safety, fire department, or BE personnel.

4.2.2.2. Removal. Caution Tags shall only be removed by the work area or activity supervisor when the hazard is abated. If the placement of the tag was coordinated with ground safety, fire department, or BE personnel as required in paragraph **4.2.2.1.**, the supervisor will coordinate with these agencies prior to removal. When the Caution Tag is used for permanent notice, the supervisor is responsible for the tag and for furnishing the protective devices (eye, noise, etc.) required by the Caution Tag.

4.2.2.3. Text and Reverse Side. The text will be provided by, and the reverse side completed by, the responsible on-duty supervisor. (Refer to **Figure 11.** and paragraph **4.3.**)

Figure 7. AF Form 980, Caution Tag.



(Yellow Tag. Yellow letters on a background [symbol]. Text-Black)

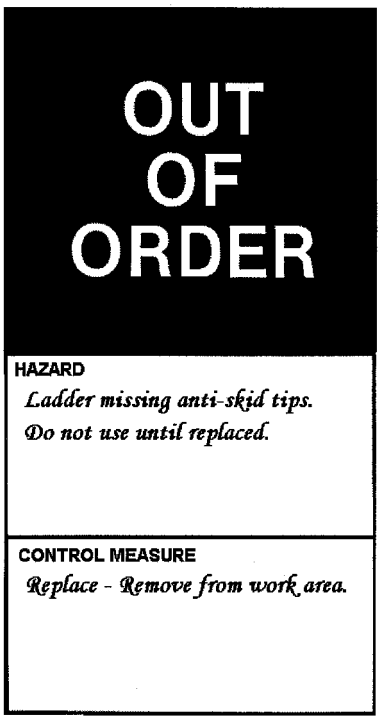
4.2.3. AF Form 981, **Out of Order Tag Figure 8.**). Out of Order tags shall only be used for the specific purpose of indicating that a piece of equipment, machinery, utility, or system is out of order and to attempt to use it might present a hazard. If it is reparable and the TO prescribes a green tag, this is a satisfactory substitute.

4.2.3.1. When to Use. In some cases, the equipment or machinery which has an Out of Order Tag placed upon it may have to be physically removed to a nonserviceable impound area. The placement of Out of Order Tags will be coordinated with the installation ground safety, fire department, or BE personnel (as appropriate). When applicable equipment records are available, they will be annotated in addition to completing the requirements established for the Out of Order Tag. If turning on the equipment could result in an injury or damage, the energy source should be locked out per paragraph **5.1.** of this standard.

4.2.3.2. Removal. Out of Order Tags shall only be removed by the supervisor assuming responsibility for the tag and only after the condition has been satisfactorily corrected. Coordination with the ground safety, fire department, or BE personnel (as appropriate) is optional, prior to removal of the tag.

4.2.3.3. Text and Reverse Side. The text will be provided by, and the reverse side completed by, the responsible on-duty supervisor. (Refer to **Figure 12.** and paragraph **4.4.**)

Figure 8. AF Form 981, Out of Order Tag.



(White Tag. White letters on a black background [symbol]. Text-Black.)

4.2.4. AF Form 982, **Do Not Start Tag** (**Figure 9.**). When an AF Form 979**, Danger Tag**, is attached to equipment, it is not necessary to retag the equipment with an AF Form 982, **Do Not Start Tag**.

4.2.4.1. When to Use. AF Form 982, **Do Not Start Tag,** shall only be used to alert personnel to the hazards associated with the restarting of the equipment. The tag will only be used for a few moments or a very short time until the energy isolating device in the system can be locked out. Do Not Start Tags shall be placed in a conspicuous location or shall be placed in such a manner that they effectively block the starting mechanism which would cause hazardous conditions should the equipment be energized.

4.2.4.2. Removal. Do Not Start Tags shall only be removed by the supervisor and only after the condition has been satisfactorily corrected.

4.2.4.3. Text and Reverse Side. The text will be provided by, and the reverse side completed by, the responsible on-duty supervisor. (Refer to **Figure 10.** and paragraph **4.3.**)

Figure 9. AF Form 982, Do Not Start Tag.

(White Tag. White letters on a red oval within a black rectangle. Text-Black)

4.3. How to Fill Out the Reverse Side of AF Forms 979, 980, and 982 (Figures 10 and 11):

4.3.1. Installation or Facility. Name of installation, facility, or annex where the form is to be used.

4.3.2. Safe Clearance Number. For use during electrical work procedures (see AFI 32-1064).

4.3.3. Line or Equipment Involved. This space will contain a brief description of the equipment or machine involved (see AFI 32-1064).

4.3.4. Abnormal and Special Conditions. These spaces are used during electrical work procedures (see AFI 32-1064).

4.3.5. Time and Date. Self-explanatory.

4.3.6. Name, Organization, and Phone Number. Print the name of the supervisor placing the tag on the equipment or machine. See AFI 32-1064 for space requiring information on individual ordering the placement of tags.

Figure 10. Reverse Side of AF Forms 979 and 982.

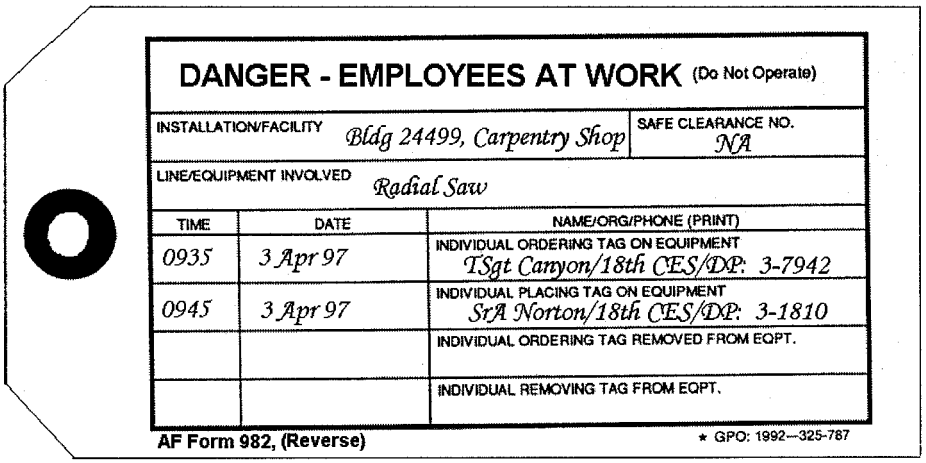
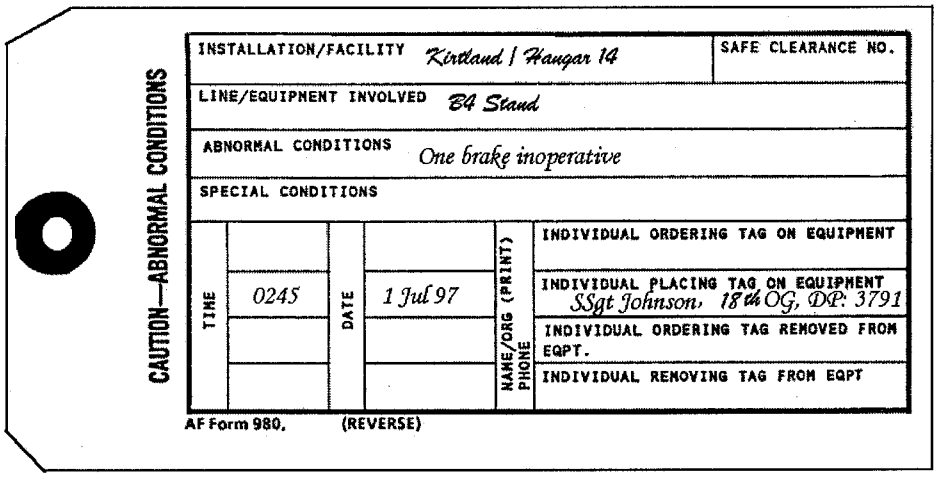


Figure 11. Reverse Side of AF Form 980.



4.4. How to Fill Out the Reverse Side of AF Form 981 (Figure 12):

4.4.1. Items 1 through 4 (Part I) will be completed by the individual who identified the hazard. Items 5 through 7 (Part II) will be completed by the responsible supervisor. The procedures outlined below are advisory rather than mandatory.

4.4.2. MAJCOMs have the authority to supplement these procedures as needed to meet local conditions. Prior to completing Part II, the supervisor shall coordinate with the responsible functional manager for those situations requiring more than 30 calendar days to correct (refer to AFI 91-301). Hazards assigned RAC 1, 2, or 3 requiring more than 30 calendar days to correct are entered into the installation's formal hazard abatement plan using AF Form 3, **Hazard Abatement Plan**, and may require posting of AF Form 1118.

4.4.2.1. Time. Self-explanatory.

4.4.2.2. Date. Self-explanatory.

4.4.2.3. Shop or Office symbol. Example: 37ABW/LGT.

4.4.2.4. Grade, Name, and Phone. Print the grade, name, and phone number of the person who placed the tag. Example: TSgt J. Smith, 1810. (Add the supervisor's name and phone number as a second name underneath.)

4.4.2.5. Risk Assessment Category (RAC). Hazard Severity and Mishap Category. (Example: RAC 2 coordinated with ground safety, fire prevention, and BE personnel.)

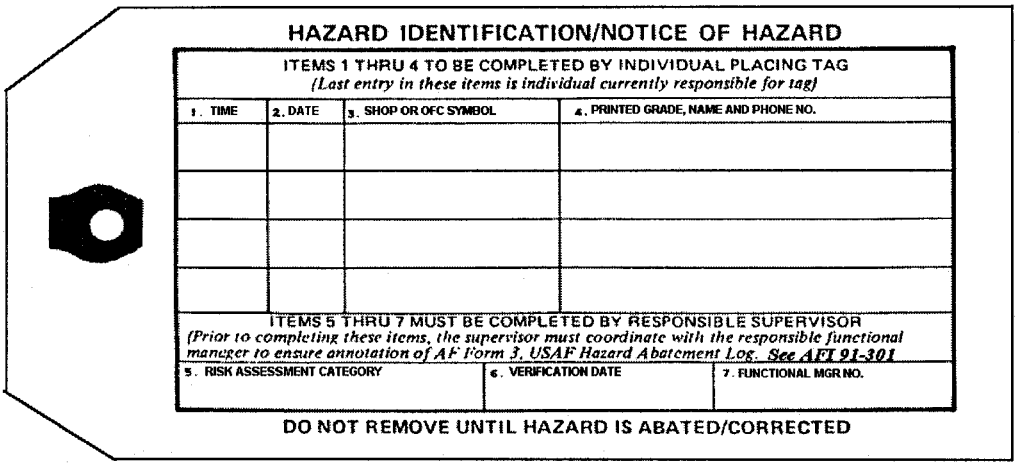
4.4.2.6. Verification Date. Date verified by installation ground safety, fire prevention, and BE personnel.

4.4.2.7. Functional Manager Number. Functional manager number assigned on AF Form 3. Example: 37ABW/LGT. Refer to AFI 91-301 for complete guidance.

NOTE 1: Items 5, 6, and 7 may be left blank on AF Form 981.

NOTE 2: When AF Forms 979, 980, and 982 are used by civil engineering personnel according to instructions in AFI 32-1064, coordination with and notification of ground safety, fire department, and BE personnel are not required.

Figure 12. Reverse Side of AF Form 981.



5. Specifications for and Usage of Lockout and Tagout Devices:

5.1. Procedures. (See **Attachment 3** for sample procedures.) Lockout and tagout procedures shall only be performed by designated supervisors, operators, or maintenance personnel. Personnel in the area not directly affected by the operation or shutdown of the machine or equipment shall be notified by the supervisor of lockout or tagout devices. Notification shall be given before the controls are applied and after they are removed from the machine or equipment. The established procedure for the application of locks or tags shall cover the following elements and be performed in the following order.

5.1.1. Before a supervisor or the operator turns off a machine or equipment, they shall have knowledge of the type and magnitude of the energy source, the hazards of the energy source to be controlled, and the method or means to control the energy source.

5.1.2. The machine or equipment shall be turned off or shut down using the normal stopping and shutdown procedures (depress stop button, open toggle switch, close shut off valve, etc.). A machine or other equipment using a simple wall plug as the power source will be unplugged, tagged with an AF Form 982, and controlled by the supervisor or operator.

5.1.3. All energy isolating devices that are needed to control the energy to the machine or equipment shall be utilized.

5.1.3.1. The initial lockout or tagout devices shall be attached to each energy isolating device by the supervisor or the designated representative. Any additional qualified personnel who perform maintenance on the machine or equipment may apply their lock during the performance of their maintenance activity.

5.1.3.2. Lockout or tagout devices, where used, shall be attached in a manner that will hold the energy isolating devices in a “safe” or “off” position.

5.1.3.3. Tagout devices, AF Forms 979 or 982, used with energy isolating devices designed with the capability of being locked shall be attached at the same point as the lock. In these cases where energy isolating devices cannot be locked because of design, tagout devices shall be attached. The tag will be secured with a self-locking and non-releasable attachment that has a minimum unlocking strength of no less than 50 pounds, for example, a nylon or plastic cable tie-off strap. These devices shall be attached in such a manner as to interfere with the operation of energy isolating devices.

5.1.3.4. Where a tag cannot be attached directly to the energy isolating device, the tag shall be located as close as safely possible to the device in a position that will be immediately obvious to anyone attempting to operate the device. **NOTE:** Whenever major replacement, repair, renovation, or modification of machines or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machines or equipment shall be designed to accept a lockout device.

5.1.4. Once the system is locked or tagged out, all potentially hazardous stored or residual energy shall be relieved, disconnected, or restrained.

5.1.5. Prior to starting work on machinery or equipment that has been locked out or tagged out, the supervisor or designated representative shall verify that the machine or equipment has been deenergized or isolated. If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

5.1.6. Before restoring machines and equipment to service, the supervisor or designated representative will:

5.1.6.1. Ensure all personnel, tools, and maintenance or servicing equipment have been removed and guards have been reinstalled.

5.1.6.2. Notify personnel the locks or tags have been removed and equipment is in service.

5.1.6.3. Remove all locks or tags and restore the energy isolating device to the ‘ON’ position.

5.1.7. Whenever it becomes necessary to remove lockout or tagout devices to temporarily start up machines or equipment for testing or component repositioning, restoration procedures shall be performed according to instructions in paragraph **5.1.** or in **Attachment 3**, paragraph **A3.2.5.** Immediately upon completion of the testing or repositioning procedures, the affected machines or equipment shall be locked or tagged out according to instructions in paragraph **5.1.** or **Attachment 3**, paragraph **A3.2.4.**

5.1.8. Specific procedures shall be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection. This includes a provision for the orderly transfer of these devices between off-going and on-coming supervisors, to minimize exposure to hazards from the unexpected energization, start-up, or release of stored energy from machines or equipment. On-coming supervisors shall be required to "lock-on" before the off-going supervisor will "lock-off." Where the machine or equipment is out of service for an extended period of time, there is no requirement to transfer the locks and tags during each shift change.

5.2. Training:

5.2.1. Training shall be provided to ensure the purpose and function of the lockout and tagout programs are understood by supervisors, operators, and qualified equipment maintenance personnel and that the knowledge and skills required for safe usage of lockout and tagout procedures in paragraph **5.1.** are understood. The training shall include the following:

5.2.1.1. Each supervisor, operator, or any qualified equipment maintenance person shall receive initial job training on the type and magnitude of applicable energy sources, the methods and means necessary for energy isolation and control, and the use of the lockout and tagout procedures.

5.2.1.2. All other personnel whose duties are or may be in an area where lockout and tagout procedures may be utilized, shall be briefed on the program during the initial job safety briefing.

5.2.2. When lockout or tagout procedures are used, supervisors, operators, or any qualified equipment maintenance personnel shall also receive initial job training on the following use of locks and tags:

5.2.2.1. Tags are essentially warning devices attached to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.

5.2.2.2. When a lock or tag is attached to an energy isolating device, only the person, supervisor, or the designated representative who initially installed the lock or tag can remove it, and it can never be bypassed, ignored, or otherwise defeated.

5.2.2.3. Tags may cause a false sense of security, and their use and limitations need to be understood as part of the overall energy control program.

5.2.2.4. Tags will be securely attached so they cannot be inadvertently or accidentally detached during use.

5.2.3. Retraining shall be provided for supervisors, operators, and qualified equipment maintenance personnel at least annually or whenever there is a change in their job assignments, a change in machines or equipment, processes that present a new hazard, or when there is a change in the lockout or tagout procedures. Additional retraining shall also be conducted whenever a periodic

inspection reveals there are deviations from, or inadequacies in, the supervisor, operator, or qualified equipment maintenance personnel's knowledge or use of the lockout or tagout procedures.

5.2.4. All training shall be certified and documented and kept up-to-date. The certification shall contain each individual's name and dates of training. This training shall be documented on an AF Form 55, **Employee Safety and Health Record**. When units use a computerized information management system, the training may be documented in the training subsystem.

5.3. Inspections:

5.3.1. Periodic inspections of the lockout and tagout programs shall be conducted at least annually by a qualified ground safety inspector to ensure compliance. The inspection shall include as a minimum, the program's procedures and training and self-inspection requirements.

5.3.2. Periodic self-inspection shall be conducted by the unit to ensure compliance with all program elements. The self-inspection shall include as a minimum, the identification of the machines and equipment on which the lockout and tagout program is used, a review of each person's responsibilities under the program, and that all necessary training has been conducted and documented. The self-inspection shall be documented to include the date of the inspection and the unit representative conducting the self-inspection.

6. Forms Prescribed. AF Form 979, **Danger Tag**, AF Form 980, **Caution Tag,** AF Form 981, **Out of Order Tag,** and AF Form 982, **Do Not Start Tag**.

FRANCIS C. GIDEON, JR., Maj General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

Air Force Instruction (AFI) 32-1064, *Electrical Safe Practices.*

AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program.*

Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards.*

Air Force Occupational Safety and Health (AFOSH) Standard 48-8, *Controlling Exposures to Hazardous Materials.*

AFOSH Standard 48-9, *Radio Frequency Radiation (RFR) Safety Program.*

Engineering Technical Letter (ETL) 91-5, *Fire Protection Engineering Criteria—Emergency Lighting and Marking of Exits.*

National Fire Protection Association (NFPA) 101, *Code for Safety to Life From Fire in Buildings and Structures (The Life Safety Code).*

NFPA 704, *Identification of the Fire Hazards of Materials.*

Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.144, *Safety Color Code for Marking Physical Hazards.*

OSHA 29 CFR 1910.145, *Specifications for Accident Prevention Signs and Tags.*

OSHA 29 CFR 1910.147, *The Control of Hazardous Energy (Lockout/Tagout).*

Technical Order (TO) 00-110N-3, *Requisition, Handling, Storage, and Identification of Radioactive Material.*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFOSH—Air Force Occupational Safety and Health

AFSC—Air Force Safety Center

BE—Bioenvironmental Engineering

CFR—Code of Federal Regulations

CONUS—Continental United States

DRU—Direct Reporting Unit

ETL—Engineering Technical Letter

FOA—Field Operating Agency

HQ—Headquarters

MAJCOM—Major Command

NATO—North Atlantic Treaty Organization

NFPA—National Fire Protection Association

ORM—Operational Risk Management

OSHA—Occupational Safety and Health Administration

PDO—Publishing Distribution Office

RAC—Risk Assessment Code

RFR—Radio Frequency Radiation

TO—Technical Order

UN—United Nations

WWW—World-Wide Web

Terms

Energy Isolating Device—A physical device that prevents the transmission or release of energy including, but not limited to, the following: a manually operated electrical circuit breaker, a disconnect switch, a slide gate, a slip blind, a line valve, blocks, and similar devices with a visible indication of the position of the device. Push buttons, selector switches, and other control circuit type devices are not energy isolating devices.

Energy Source—Any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal, or other energy source that could cause injury to personnel.

Graphics—Elements (words, emblems, colors, symbols, and other visual devices) of a sign or tag used to convey a warning, caution, danger, or serve as a notice of an existing hazard.

Hazard Identification—For the purpose of this standard, hazard identification refers to signs or tags that warn, caution, or inform personnel of a hazardous condition.

Lockout Device—A device that utilizes a lock and key to hold an energy isolating device in the safe position for the purpose of protecting personnel.

May—Indicates an acceptable or satisfactory method of accomplishment.

Mishap Prevention Sign—A visual display made of some durable material (metal, wood, rigid plastic) intended to caution, warn, or provide information.

Mishap Prevention Tag—A visual display, intended to caution or warn, made of materials which will withstand the environmental conditions expected in the workplace. Tags will be securely attached in an appropriate manner to ensure visibility, as close to the machine or equipment as possible.

Notice of Hazard—A written warning of a condition, procedure, or practice which constitutes an occupational hazard. As used in the context of this standard, Notice of Hazard refers to AF Form 1118, **Notice of Hazard** (refer to AFI 91-301).

Shall—Indicates a mandatory requirement.

Should—Indicates a preferred method of accomplishment.

Symbol—A letter, picture, figure, or other character or mark (or a combination thereof) used to identify a hazard.

Tagout Device—A mishap prevention tag that is capable of being securely attached and that, for the purpose of protecting personnel, forbids the operation of an energy isolating device and identifies the applier or authority who has control of the procedure. Refer to paragraph 5.1. for additional information on securing methods.

Will—Is also used to indicate a mandatory requirement and in addition is used to express a declaration of intent, probability, or determination.

Attachment 2

RECOMMENDED CRITERIA AND PROPORTIONS FOR LOCALLY MANUFACTURED SIGNS

Whenever possible, commercially manufactured signs should be procured. When it is necessary to locally manufacture signs, the following criteria and proportions are suggested or recommended

Table A2.1. Letter Size Versus Legibility Distance.

Height of Letters (Inches)	Distance Visible (Feet)	Height of Letters (Inches)	Distance Visible (Feet)
3 1/2	105	1	33
3	90	7/8	28
2 1/2	75	3/4	23
2	60	5/8	18
1 3/4	52	1/2	15
1 1/2	45	3/8	12
1 1/4	40	1/4	10

The above letter size versus legibility distance values assume at least 20/40 visual acuity or the viewer and adequate lighting of the sign and do not include any allowance for various color combinations.

Table A2.2. Recommended Proportions for Danger Signs.

Sign Size, Inches Height Width	Black Rectangular Panel, Inches Height Width	Red Oval, Inches Height Width	Wording **DANGER**, Inches Height	Minimum Space Available for Sign Wording, Inches
		Horizontal Pattern		
7 x 10	3 1/4 x 9 3/8	2 7/8 x 8 1/2	1 7/16	2 3/4 x 9 3/8
10 x 14	4 5/8 x 13 3/8	4 1/8 x 11 7/8	2 1/16	4 1/4 x 13 3/8
14 x 20	6 1/2 x 19 3/8	5 3/4 x 17	2 7/8	6 1/4 x 19 3/8
20 x 24	9 1/4 x 27 3/8	8 1/4 x 23 7/8	4 1/8	9 1/2 x 27 3/8
		Upright Pattern		
10 x 7	2 3/8 x 6 3/8	2 1/8 x 5 7/8	1 1/16	6 3/8 x 6 3/8
14 x 10	3 1/4 x 9 3/8	2 7/8 x 8 1/2	1 7/16	9 1/2 x 9 3/8
20 x 14	4 5/8 x 13 3/8	4 1/8 x 11 7/8	2 1/16	14 x 13 3/8
28 x 20	6 1/2 x 19 3/8	5 3/4 x 17	2 7/8	20 1/4 x 19 3/8

Table A2.3. Recommended Proportions for Caution Signs.

Sign Size, Inches Height Width	Black Rectangular Panels, Inches Height Width	Wording **CAUTION,** Inches Height	Maximum Space Available For Sign Wording, Below Panel; Inches Height Width
		Horizontal Pattern	
7 x 10	2 1/4 x 9 3/8	1 5/8	3 1/4 x 9 3/8
10 x 14	3 1/4 x 13 3/8	2 1/4	5 1/2 x 13 3/8
14 x 20	3 3/4 x 19 3/8	2 3/4	9 x 19 3/8
20 x 28	4 1/4 x 27 3/8	3 1/4	14 1/2 x 27 3/8

Upright Pattern

10 x 7	1 5/8 x 6 3/8	1 1/8	7 x 6 3/8
14 x 10	2 1/4 x 9 3/8	1 5/8	10 1/2 x 9 3/8
20 x 14	3 1/4 x 13 3/8	2 1/4	15 1/2 x 13 3/8
28 x 20	3 3/4 x 19 3/8	2 3/4	24 x 19 3/4

Table A2.4. Recommended Proportions for Instruction and Identification Signs.

Sign Size, Inches Height Width	Height of Letters, Inches For One Line	Height of Letters, Inches For Two Lines	Height of Letters, Inches For Three Lines	Maximum Space Available for Sign Wording, Inches Height Width
		Horizontal		
7 x 10	3	1 1/2	1 1/2	6 x 9
10 x 14	6	2 1/2	2	9 x 13
9 x 20	3	2 1/2	1 1/2	8 x 19
14 x 20	NA	3	3	13 x 19

Table A2.5. Recommended Proportions for Directional Signs.

Sign Size, Inches Height Width	Black Rectangular Panel, Inches Height Width	Arrow Overall Length	Arrow Head Height Width	Arrow Shaft Height	White Arrow, Inches Arrow Tail Height Width	Maximum Space Available for Sign Wording Below Panel, Inches Height Width
6 1/2 x 14	3 1/4 x 13 3/8	12 5/8	2 3/4 x 3	1 1/8	2 3/8 x 3 1/4	2 1/4 x 13 3/8
9 x 20	4 1/2 x 19 3/8	18 5/8	3 3/4 x 4 1/8	1 5/8	3 14 x 4 1/2	3 3/8 x 19 3/8
12 x 28	6 x 27 3/8	26 5/8	5 1/8 x 5 5/8	2 1/8	4 3/8 x 6	4 3/4 x 27 3/8
15 x 36	7 1/2 x 35 3/8	34 5/8	6 3/8 x 6 7/8	2 5/8	5 1/2 x 7 1/2	6 1/4 x 35 3/8

Table A2.6. Standard Proportions for Instruction and Identification Signs.

Sign Size, Inches Height Width	Height of Letters, Inches For One Letters, Inches	Height of Letters, Inches For Two Letters, Inches	Height of Letters, Inches for Three Letters, Inches	Maximum Space Available for Sign Wording, Inches Maximum Space
		Horizontal Pattern		
7 x10	3	1 1/2	1 1/2	6 x 9
10 x 14	6	2 1/2	2	9 x 13
9 x 20	3	2 1/2	1 1/2	8 x 19
14 x 20	NA	3	3	13 x 19

Attachment 3

SAMPLE LOCKOUT OR TAGOUT PROCEDURES

A3.1. General. Lockout is the preferred method of isolating machines or equipment from energy sources. To assist organizations in developing a procedure which meets the requirements of the standard, however, the following simple procedure is provided for use in both lockout and tagout programs. This procedure may be used when there are limited numbers or types of machines or equipment or there is a single power source. For more complex systems, a more comprehensive procedure will be developed, documented, and utilized.

A3.2. Lockout or Tagout Procedure for Your Organization:

A3.2.1. Purpose. This procedure establishes the minimum requirements for the lockout or tagout of energy isolating devices. It shall be used to ensure the machine or equipment is isolated from all potentially hazardous energy, and locked out or tagged out before qualified personnel perform any servicing or maintenance activities where the unexpected energization, start-up, or release of stored energy could cause injury.

A3.2.2. Responsibility. Personnel shall be instructed in the safety significance of the lockout (or tagout) procedure by (Names or Job Titles of certified individuals authorized to lockout or tagout). Each new or transferred individual and other personnel whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout and tagout procedures during initial job safety briefing.

A3.2.3. Preparation for Lockout or tagout. A survey to locate and identify all machines and equipment requiring lockout or tagout procedures will be made. All isolating devices shall be located and identified to be certain which switches, valves, or other energy isolating devices apply to the machines and equipment to be locked or tagged out. More than one energy source (electrical, mechanical, or others) may be involved. (List types and locations of energy isolating device for each machine or equipment). ***NOTE***: Machines or other equipment, using a simple wall plug as the power source, are not included as long as the plug is controlled by the supervisor or operator.

A3.2.4. Sequence of Lockout or Tagout System Procedure:

A3.2.4.1. Notify all personnel that a lockout or tagout system is going to be utilized and the reason. Ensure the individual knows the type and magnitude of energy that the machine or equipment utilizes and understands the hazards it presents.

A3.2.4.2. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

A3.2.4.3. Operate the switch, valve, or other energy isolating devices so the equipment is isolated from its energy sources. Dissipate or restrain stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) by methods such as repositioning, blocking, bleeding down, etc. (List the types of stored energy and methods used to dissipate or restrain.)

A3.2.4.4. Lockout or tagout the energy isolating devices with assigned individual locks or tags (methods selected; i.e., locks, tags, additional safety measures, etc.).

A3.2.4.5. After ensuring that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate (types of equipment checked to ensure disconnection). **CAUTION:** Return operating controls to "neutral" or "off" position after the test.

A3.2.4.6. The equipment is now locked out or tagged out.

A3.2.5. Restoring Machines or Equipment to Normal Production Operations:

A3.2.5.1. After the servicing or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure no one is exposed.

A3.2.5.2. After all tools have been removed from the machine or equipment, guards have been reinstalled, and personnel are in the clear, remove all lockout or tagout devices. Notify personnel that the locks or tags have been removed and the equipment is in service. Operate the energy isolating devices to restore energy to the machine or equipment.

A3.2.6. Procedure Involving More Than One Person. In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place his or her own personal lockout device or tagout device on the energy isolating devices. When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used.

A3.2.7. Basic Rules for Using Lockout or Tagout System Procedures. All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Personnel will not attempt to operate any switch, valve, or other energy isolating device when it is locked or tagged out.

Attachment 4

EXAMPLES OF COLOR APPLICATIONS

Black and White
Dead-ends of aisles
Location of aisleways
Direction signs
Location of refuse cans
Lettering on piping systems and compressed gas cylinders
Piping systems containing raw or potable water
Orange
Inside of movable guards (solid panel)
Lower traveling blocks on cranes and hoists
Exposed edge of pulleys, gears, rollers, cutting devices, power jaws, etc.
Electrical conduit
Green
Location of health station
Location of personal protective equipment
Location of emergency showers
Safety bulletin board
Piping systems containing oxidizing materials
Compressed gas cylinders containing oxidizing materials
Magenta
Radioactive filter housings
Radiation ion exchanger
Radioactive waste containers
Radioactive sampling connections
Radiation signs
Lettering on piping systems containing radioactive substances
Red
Danger signs
Stop signs
Stop Buttons and Bars equipment

Yellow
Corner markers for storage piles
Coverings or guard for guy wires
Fixtures extending into operating area
Guardrails on top and bottom
Horizontal lips of vertically sliding, counterbalanced elevator doors
Pillars or posts which might be stuck
Caution signs
Piping systems containing radioactive substances
Flammable liquid container
Piping systems containing flammable materials
Compressed gas cylinders containing flammable materials

Attachment 5

EXAMPLES OF WORDING FOR MISHAP PREVENTION SIGNS

Caution	Danger
Close Clearance	Acid
Electric Fence	Ammonia
Electric Trucks, Go Slow	Crane Overhead
Eye Protection Required	Cyanide
Goggles Must Be Worn When Operating This Machine	Do Not Energize Switch, Personnel Working on Line
Hearing Protection Required	Do Not Operate, Personnel Working on Equipment
Keep Aisles Clear	Energized Equipment
Keep Door Closed	Explosives--Keep Out
Keep This Space Clear at All Times	Explosives Magazine
Operators of This Machine Will Wear Snug-Fitting Clothing--No Gloves	Explosives--Turn Off 2-Way Radio
	Keep Away
Respirator Required in This Area	Keep Off, Electric Current
Safety Fuse, Burning Rate 40 Feet Per Second, Plus or Minus 10 Percent	Employees in Boiler
Step Down	Employees on Cars
Stop Machinery to Clean, Oil, or Repair	Employees Working Above
Use Ladder Climbing Safety Device	Employees Working on Machines, Do Not Start
Watch Your Step	Not Room Enough to Clear
Do Not Enter Room When Alarm Sounds Halon 1301 (or C02) Being Discharged	No Smoking, Matches, or Open Flames
When Alarm Sounds, Vacate Room Halon 1301 (or C02) Being Discharged	Test in Progress
Directional	**Instructional and Identification**
Fire (inside arrow) Extinguisher (below arrow panel)	Compressed Breathing Air Station
Walkway (below arrow panel)	Do Not Eat or Drink in This Area
This Way to (inside arrow) First-Aid Room (below arrow panel)	Emergency Shower
This Way Out (below arrow panel)	Eyewash Fountain

This Way (inside arrow) Out (below arrow panel)	Make Your Workplace Safe Before Starting the Job
To (inside arrow) First Aid (below arrow panel)	Report All Injuries No Matter How Slight
	Report All Unsafe Conditions to Your Supervisor
	Respirators
	Wash Hands Before Eating

Attachment 6

HAZARDOUS ENERGY CONTROL AND MISHAP PREVENTION SIGNS AND TAGS CHECKLIST

This is not an all-inclusive checklist. It simply highlights some critical items in this standard. Other requirements exist in the standard that are not included in the checklist; where appropriate, MAJCOMs, FOAs, DRUs, local safety personnel, and supervisors will add to this checklist to include command or individual shop-unique requirements or situations.

A6.1. Are safety, health, and fire prevention signs used effectively for worker awareness and education in industrial, shop, and other work areas to convey a clear, concise message to prevent mishaps? (Paragraph **2.1.**)

A6.2. Are safety, health, or fire prevention tags used only as a temporary warning prior to safeguarding or correcting the hazard? (Paragraph **2.2.**)

A6.3. Are locks used as a positive means of isolating energy sources and preventing the unexpected start-up of machines and equipment? (Paragraph **2.3.**)

A6.4. Are procedures developed and documented for the safe and proper use of locks and tags? (Paragraph **2.4.**)

A6.5. Has a training plan been developed to provide initial and recurring training on lockout and tagout procedures? (Paragraph **2.5.**)

A6.6. Is a periodic inspection of the lockout and tagout program conducted at least annually? (Paragraph **2.6.**)

A6.7. Is an adequate supply of safety tags and locks available for use? (Paragraph **2.9.**)

A6.8. Do danger, caution, and safety information signs meet color and size criteria? (Paragraph **3.**)

A6.9. Does the wording (or graphics) clearly convey the mishap prevention messages? (Paragraph **3.**)

A6.10. Are Risk Assessment Codes (RAC) and verification dates assigned by safety, fire, or health, as appropriate, to ensure hazards requiring more than 30 days to correct are entered into hazard abatement system and that the back of tags are annotated? (Paragraphs **4.1.** and **4.2.**)

A6.11. Are AF Forms 979, **Danger Tag**, used only to identify immediate danger situations with risk assessment codes 1 through 3? (Paragraph **4.2.**)

A6.12. Are installation ground safety personnel notified of Danger and Caution Tags removal after correction of the hazards? (Paragraphs **4.2.** and **4.2.2.**)

A6.13. Are AF Forms 980, **Caution Tag**, used to identify or warn of potential hazards? (Paragraph **4.2.2.**)

A6.14. Are AF Forms 981, **Out of Order Tag**, used to warn of a hazard if the equipment, machinery, tool, utility, or system is used? ***NOTE:*** May be tagged with unserviceable or repairable tag if prescribed by TO. (Paragraph **4.2.3.**)

A6.15. Are AF Forms 982, **Do Not Start Tag**, used to warn personnel of a potential hazard if equipment is restarted? (Paragraph **4.2.4.**)

A6.16. Is notification given to personnel in the area before and after lockout or tagout controls are used? (Paragraph **5.1.**)

A6.17. Does the supervisor or operator responsible for a machine or equipment have knowledge of the type and magnitude of the energy source and the methods and means to control the source? (Paragraph **5.1.**)

A6.18. Are lockout or tagout devices attached in a manner that will hold the energy isolating devices in a "safe" or "off" position? (Paragraph **5.1.**).

A6.19. Are specific procedures utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection? (Paragraph **5.1.8.**)

A6.20. Is initial and recurring job training on the lockout and tagout program conducted, documented, and kept up-to-date? (Paragraph **5.2.**)

A6.21. Are periodic self-inspections conducted and documented by the unit? (Paragraph **5.3.**)